Appendix D. Data Quality

Two major determinants of the quality of data collected in household surveys are the magnitude of missing responses and the accuracy of the responses that are provided. This appendix provides information on the nonresponse rates for selected net worth items in the Survey of Income and Program Participation (SIPP) and provides a comparison of the survey net worth estimates with independent benchmark data.

Nonresponse in this discussion refers to missing responses to specific questions or "items" on the questionnaire. Noninterviews or complete failure to obtain cooperation from any household member have not been considered in this examination of nonresponse rates. Adjustments to account for noninterview are made by proportionally increasing the survey weights of interviewed households. Missing responses to specific questions are assigned a value in the imputation phase of the data processing operation.

Nonresponse is an important factor in assessing the quality of survey data. Nonresponse occurs when respondents do not answer questions because of a lack of knowledge or a refusal to answer. Nonresponse rates are calculated by dividing the number of missing responses by the total number of responses that should have been provided. The rates for selected asset amount questions from the 1990 panel are compared with rates for similar questions from the 1984, 1987, and 1988 SIPP panels, and to nonresponse rates from the earlier Income Survey Development Program (ISDP), a research panel for SIPP. These results are found in table D-1. Data on assets and liabilities were collected in the fifth wave of ISDP (end of 1979). In general, the SIPP nonresponse rates show improvement over the nonresponse rates encountered in ISDP. The adoption of a callback procedure to attempt to

collect missing asset amounts and a major emphasis during interviewer training on the need to obtain complete asset information were two factors which contributed to the reduction in the nonresponse rates. The results from the four different SIPP interviews (1984, 1987, 1988, and 1990) are similar.

Nonresponses are assigned values prior to producing estimates from the survey data. The procedure used to assign or impute most responses for missing data for SIPP are of a type commonly referred to as a "hot deck" imputation method. This process assigns values reported in the survey by respondents to nonrespondents. The respondent for whom the value is taken is termed the "donor." Values from donors are assigned by controlling for demographic and economic data available for both donors and nonrespondents. For every asset and liability item, there was a common set of characteristics used in the imputation process. These included the age, race, sex, and years of schooling of the person (or householder), and total household income during the 4-month reference period. For selected items, additional characteristics were used in the imputation process. For example, the imputation of the current market value of an individual home used the common set of characteristics listed above, plus the original purchase price of the home. Similarly, for most assets covered in the core section of the questionnaire, income was used as an additional characteristic in the imputation of current balances of market values.

A second important determinant of data quality is the accuracy of reported and imputed amounts. Response errors are the result of a variety of factors including random response error, misreporting or failure to report asset ownership, and misreporting of asset and liability values. The extent of response error is measured by comparing survey estimates with independently derived estimates.

A comparison of SIPP aggregate asset amounts in 1988 and 1991 with estimates derived from the Flow of Funds data of the Federal Reserve Board (FRB) is shown in table D-2. The Flow of Funds Balance Sheet data provides estimates as of the end of the year and is shown in the first column for each year. There are several conceptual and coverage differences between SIPP and FRB Balance Sheet data. First, the household sector in the FRB Balance Sheet includes nonprofit institutions and private trusts which are not covered in SIPP. In order to make the source more comparable, a rough estimate of the financial assets held by the nonprofit sector and personal trusts was obtained from the Federal Reserve Board. The second

Table D-1. **Nonresponse Rate for Asset Ownership**

Asset type	ISDP[1] (1979)	SIPP (1984)	SIPP (1987)	SIPP (1988)	SIPP (1990)
Debt on stocks and mutual fund shares	87.3	41.1	48.2	57.6	53.3
Face value of U.S. savings bonds	35.8	24.9	26.0	14.6	27.0
Value of rental property	39.9	33.5	31.1	23.3	32.1
Value of own business	55.3	37.9	39.2	34.4	47.3
Debt in own business	50.4	28.8	30.9	29.5	40.4

[1]Source: Robert Pearl, Matilda Frankel, and Richard Williams, "The Effect of the Reliability of Net Worth Data from the 1979 ISDP Research Panel," Survey Research Laboratory, University of Illinois, May 1982.

Table D-2. **SIPP Asset and Liability Year-End Outstanding Estimates Compared with Federal Reserve Board (FRB) Balance Sheet Data for the Household Sector: 1991 and 1988**

[Data are in billions of dollars]

Category	1991			1988		
	FRB balance sheet	SIPP	Ratio of SIPP to FRB balance sheet	FRB balance sheet	SIPP	Ratio of SIPP to FRB balance sheet
A. Equity in owner-occupied housing	$3,406.3	$4,059.1	1.19	$3,042.1	$3,628.6	1.19
Gross value	6,005.0	6,366.7	1.06	5,180.6	5,235.0	1.01
Debt..................................	2,598.7	2,307.6	0.89	2,138.5	1,606.4	0.75
B. Equity in motor vehicles	571.1	615.5	1.08	424.3	490.3	1.16
Gross value	832.0	882.4	1.06	708.9	741.0	1.05
Debt..................................	260.9	266.9	1.02	284.6	250.7	0.88
C. Equity in noncorporate business.............	2,449.4	1,950.4	0.80	2,410.7	1,764.9	0.73
Rental property	(NA)	1,245.1	(NA)	(NA)	1,025.9	(NA)
Other business equity...................	(NA)	705.3	(NA)	(NA)	739.0	(NA)
D. Financial assets	5,944.8	3,523.6	0.59	5,753.5	3,813.2	0.66
1. Interest-earning assets[1]..............	4,815.7	2,522.1	0.52	4,348.5	2,432.5	0.56
2. Corporate equities[2].................	2,317.2	1,091.4	0.47	2,171.4	1,114.2	0.51
3. Other financial assets[3]..............	214.8	243.1	1.13	176.6	266.5	1.51
4. Less: Financial assets held by nonprofit sector or in personal trusts ..	(1,402.9)	(X)	(X)	(943.0)	(X)	(X)
E. Installment and other consumer debt[4].......	323.1	333.0	1.03	409.1	245.8	0.60
F. Net Worth (A+B+C+D-E)....................	12,048.5	9,815.6	0.81	11,221.5	9451.2	0.84

N A Separate estimates not available.   X Not applicable.

[1]Includes passbook savings accounts, money market deposit accounts, certificates of deposit, checking accounts, money market funds, U.S. Government securities, municipal or corporate bonds, savings bonds, IRA and KEOGH accounts, and other interest-earning assets.
[2]Includes equities in stocks, mutual fund shares, and incorporated self-employed businesses or professions.
[3]Includes mortgages held by sellers and other financial assets not otherwise specified.
[4]Excludes debt for automobile and mobile homes.

difference is that the SIPP universe consists of the noninstitutional resident population. Excluded from the universe are Armed Forces personnel living in military barracks, citizens residing abroad, and institutionalized persons, such as correctional facility inmates and nursing home residents. The asset holdings of these groups are included in the FRB Balance Sheet estimates. A third limitation in this comparison is that the household sector of the FRB Balance Sheets is estimated as a residual after allocations are made to all other sectors (farm, nonfarm, noncorporate business, nonfinancial corporate business, and private financial institutions). As a result, allocation errors can lead to inaccuracies in the household sector estimates, especially in assets where the amount held by households comprises a small percentage of the total.

In both the 1991 and the 1988 SIPP, values for equity in owner-occupied housing were 1.19 times the 1988 FRB Balance Sheet estimate. The ratio of SIPP to FRB values for equity in noncorporate business was .80 in 1991. Overall, the ratio of Net Worth from SIPP to that of the FRB balance sheet was .81 in 1991 and .84 in 1988.

To further compare the 1991 estimates with other independently derived estimates, mean and median estimates for home equity from the SIPP, American Housing Survey (AHS), and Survey of Consumer Finances (SCF) data are shown in table D-3. Home equity is the asset

Table D-3. **Comparison of Mean and Median Home Equity from Selected Surveys**

[Equity in 1991 dollars]

Source	Number of households (in thousands)	Mean equity	Median equity
1991 SIPP......................	61,550	$66,152	$43,078
1988 SIPP......................	58,228	72,205	49,961
1991 American Housing Survey[1] ..	59,796	75,685	51,080
1989 American Housing Survey[1] ..	59,916	82,696	55,000
1987 American Housing Survey[1] ..	58,164	78,350	57,000
1989 Survey of Consumer Finances	58,000	85,952	55,000

[1]The American Housing Survey does not impute missing information for mortages, although it does impute missing information on the value of homes. These estimates are computed for about 75 percent of homeowners who reported full mortage information, and may be biased.

representing the largest share of net worth. As in previous tables in this report, all means and medians represent 1991 dollars. The median home equity value estimated from the 1991 SIPP was 18 percent lower than the median value estimated from the 1991 AHS and 28 percent lower than the value estimated from the 1989 SCF. While SIPP imputes unreported values for home equity, AHS does not. This fact could account for some of the differences between

AHS and SIPP values. The SCF has more coverage of wealthy householders than does the SIPP, which may account for the higher median home equity estimated by the SCF.

Two final issues related to data quality are asset coverage and population coverage. The household net worth estimates presented in this report exclude equities in pension plans, the cash surrender value of life insurance policies, and the value of household furnishings such as furniture, antiques, art, and jewelry. These were excluded because it is particularly difficult to obtain reliable data on these assets in a household survey. For households likely to hold these assets, the estimates in this report will underestimate more general definitions of net worth. The

exclusion of pension plan equities is likely to be more important for older householders with substantial lifetime work experience.

The second related issue is population coverage. The distribution of net worth is known to be highly concentrated. Findings from SIPP show that in 1991, the top 3.6 percent of the distribution held 32 percent of total net worth and an even greater proportion of certain asset types. The SIPP did not make a special effort to measure the top of the distribution. When the distribution is so concentrated, the normal SIPP area sample frame, with few observations for high income households, has large variability in the statistics for these households.